

GABONILYA, N.A.; MAIDRATONAYA, K.V.; RUMDOL'SKAYA, L.A.; ROTH STVILI, L.A.;
TATLASHVILI, R.G.

Geometric program of processing penetrating cosmic ray showers.
Izv. AN SSSR Ser. fiz. 28 no.12:2077-2081 D '64 (MIRA 18:2)

1. Institut fiziki AN GruzSSR.

ROYNISHVILI, N.N.

Distribution of transverse impulses of strange particles.
Trudy Inst. fiz. AN Gruz. SSR 9:3-51 '63. (MIRA 17:7)

EGYNISHVILI, S. V.: Master Med Sci (diss) -- "A study of the quantitative changes in blood-plasma proteins in patients with certain internal diseases (Clinical and biochemical investigation)". Tbilisi, 1959. 20 pp (Tbilisi State Med Inst), 200 copies (KL, No 13, 1959, 113)

SIMONGULOV, V.A.; ROYNISHVILI, S.V.

Cholestrol variation in Botkin's disease. Soob.AN Gruz.SSR
23 no.2:215-218 Ag '59. (MIRA 13:2)

1. Tbilisskiy gosudarstvennyy meditsinskiy institut. Predstavleno
akademikom K.D.Kristavi.
(CHOLESTROL) (HEPATITIS. INFECTIOUS)

ROYNISHVILI, S.V.

Significance of the speed of the blood flow in different diseases.
Soob. AN Gruz. SSR 20 no. 2:225-228 F '59. (MIRA 11:7)

1. Tbilisskiy gosudarstvennyy meditsinskiy institut. Predstavleno
chlenom-korrespondentom AN GruzSSR K.P.Chikovani.
(BLOOD--CIRCULATION, DISORDERS OF)

ROYNISHVILI, S.V.

Qualitative and quantitative changes in amino acids of the
blood serum in Botkin's disease. Socb. AN Cruz. SSR 39
no.1:87-91 J1 '65. (MIRA 18:10)

ROYNISHVILI, S.V.

Changes in the quantity of prothrombin in pulmonary tuberculosis.
Soob.AN Gruz.SSR 25 no.5:619-622 N '60. (MIRA 14:1)

1. Tbilisskiy gosudarstvennyy meditsinskiy institut. Predstavleno
chlenom-korrespondentom Akademii K.P.Chikovani.
(PROTHROMBIN) (TUBERCULOSIS)

CHIKOVANI, G.Ye.; ROYNISHVILI, V.N.; MIRHAYLOV, V.A.

Measurability of ionization in a spark chamber with isotropic properties. Soob. AN Gruz. SSR 35 no.3:539-542 S '64. (MIRA 17:11)

1. Institut fiziki AN GruzSSR, Tbilisi. Predstavleno akademikom E.L. Andronikashvili.

I 45297-66 EWT(1)
ACC NR: AR6023260

SOURCE CODE: UR/0058/66/000/003/A054/A055

AUTHOR: Mikheylov, V. A.; Roynishvili, V. N.; Chikovani, G. Ye.

TITLE: Spark chamber with large discharge gap

SOURCE: Ref zh. Fizika, Abs. 3A470

REF. SOURCE: Sb. Fiz. chastits vysok. energiy. No. 1. Tbilisi, Metsniyeroba, 1965, 85-89

TOPIC TAGS: spark chamber, spark gap, neon, argon, gas discharge counter, particle track

ABSTRACT: The construction is described and the main characteristics are presented of spark chambers with large discharge gaps (5 and 10 cm). The working volume (26 liters) was filled with commercial argon or neon of VCh (high purity) grade at atmospheric pressure. The direction of the spark corresponded to the direction of the particle up to 45° inclination angles. The chambers had 100% registration efficiency in the entire track-inclination angle interval. For the chamber with 5 cm discharge gap, the error in the determination of the angle was 2.5×10^{-3} radian. V. Tolbuzin.
[Translation of abstract]

SUB CODE: 20

Card 1/1

ACCESSION NR: AP4031144

S/0056/64/046/004/1228/1239

AUTHORS: Chikovani, G. Ye.; Roynishvili, V. N.; Mikhaylov, V. A.

TITLE: Investigation of the mechanism of operation of track spark chambers

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 4, 1964, 1228-1239

TOPIC TAGS: particle detector, spark chamber, track spark chamber, glow center, streamer discharge

ABSTRACT: The characteristic of a 100 x 60 x 19 cm operating track chamber have been studied, in which a distinctly new mode of spark chamber operation (called the "track mode") has been realized. A statistical model of the development of the luminous centers is proposed to explain the operation of the track chamber. Experiments have been performed to ascertain the distribution of the discharges from electrode to electrode, their nature, and their dependence on

Card 1/4

ACCESSION NR: AP4031144

the pulse duration. Other characteristics of the track chambers investigated are the number of luminous centers, the widths of the centers, and the rms deviation of the centers from the true trajectory as a function of the delay time between the particle passage and the time of application of the high voltage pulse. The test results agree well with the statistical model proposed. It is emphasized that, along with the grid time resolution, short recovery time, and simplicity of ordinary spark chambers the track spark chamber has isotropic properties which permit the three-dimensional recording of tracks of particles traveling at all angles, individually or in large groups. It is expected that the spark chamber will become a powerful tool for the study of elementary particle interactions.

"The authors thank Professor E. L. Andronikashvili for stimulation of the work and discussion of the results, their co-workers at the Cloud Chamber Photograph Analysis Laboratory of Institut fiziki AN GruzSSR, to their co-workers of the Programming Group of the Institut Fiziki for the computer operation, and also V. Ya. Oshmyan for assis-

Card 2/4

ACCESSION NR: AP4031144

tance in the preparation of the chambers." Orig. art. has: 8 figures and 16 formulas.

ASSOCIATION: Institut Fiziki AN GruzSSR (Institute of Physics AN GruzSSR)

SUBMITTED: 12Nov63

DATE ACQ: 07May64

ENCL: 01

SUB CODE: NP, GP

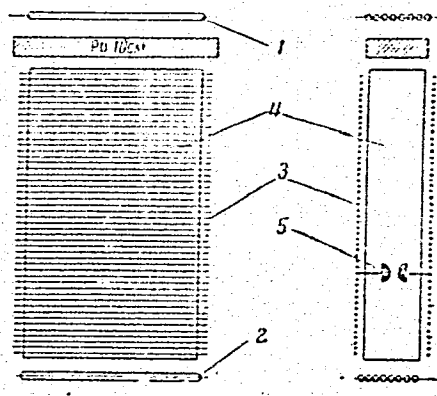
NR REF SOV: 006

OTHER: 005

Card 3/4

ACCESSION NR: AP4031144

ENCLOSURE: 01



Schematic arrangement of experimental setup
(in two projections): 1, 2 - GM counters,
3 - grid electrodes, 4 - glass vessel filled
with neon, 5 - shunting discharge gap

Card 4/4

MIKHAYLOV, V.A.; ROYNISHVILI, V.N.; CHIKOVANI, G.Ye.

Spark chamber with a large discharge gap. Fiz. chast. vys. energ.
no.1:85-89 '65. (MIRA 18:12)

MIKHAYLOV, V.A.; ROYNISHVILI, V.N.; CHIKOVANI, G.Ye.

Spark chambers. Zhur. eksp. i teor. fiz. 45 no.3:818-819 S '63.
(MIRA 16:10)

1. Institut fiziki AN Gruzinskoy SSR.
(Cloud chamber)

ACC NR: AR6023697

SOURCE CODE: UR/0275/66/000/004/A031/A031

AUTHOR: Mikhaylov, V. A.; Roynishvili, V. N.; Chikovani, G. Ye.

TITLE: Long-gap spark chamber

SOURCE: Ref. zh. Elektronika i yeye primeneniye, Abs. 4A222

REF SOURCE: Sb. Fiz. chastits vysok, energiy. No. 1, Tbilisi, Metsniyeroba, 1965,85-89

TOPIC TAGS: spark chamber, spark gap

ABSTRACT: The construction and principal characteristics of long-gap (5 and 10 cm) spark chambers are presented. The chamber space (25 lit) was filled with commercial argon or HF-brand neon at atmospheric pressure. Within 45° , the direction of the spark was along the particle movement. Within the entire angular range of the tracks, the chambers showed a 100% efficiency of recording. For the 5-cm gap chamber, the error of angle determination was 0.0025 rad. V. T. [Translation of abstract]

SUB CODE: 20

Card 1/1

UDC:621.387.4

ACCESSION NR: AP4018351

S/0251/64/033/001/0049/0055

AUTHORS: Chikovani, G. Ye.; Roynishvili, V. N.; Mikhaylov, V. A.

TITLE: Investigations of track spark chamber working mechanism (Presented by E. L. Andronikashvili, Academician, 14 December 1963)

SOURCE: AN GruzSSR. Soobshcheniya, v. 33, no. 1, 1964, 49-55

TOPIC TAGS: spark chamber, particle trajectory, Wilson chamber, pulse generator, luminous column, mesh electrode

ABSTRACT: An experimental "track" spark chamber which produces the track of a particle analogous to those observed in a Wilson chamber has been described. The chamber is a rectangular cell $100 \times 60 \times 20 \text{ cm}^3$, filled with high purity neon gas at one atmosphere pressure. The stereophotography of particle tracks is obtained through a mesh electrode charged by a 200 kv potential. An electronic scheme reduces the time lag between the penetrating particle and the high voltage pulse generator trigger in the $1\text{-}200 \mu \text{ sec}$ interval. The investigations included the number of luminous columns, the width of the columns, and the root-mean-square

Card 1/2

ACCESSION NR: AP4018351

deviation of the column from the actual trajectory as a function of time-lag between particle penetration and pulse trigger. For 200 μ sec time lag τ the pulse duration is 5% longer than at lower values of τ . The luminous columns are seen to be distributed very close to the particle tracks and at $\tau = 1 \mu$ sec the maximum pulse measurement gives a value of 300 Bev/sec. Orig. art. has: 6 figures and 1 formula.

ASSOCIATION: Akademiya nauk Gruzinskoy SSR, Institut fiziki, Tiflis (Academy of Science, Georgian SSR, Institute of Physics).

SUBMITTED: 11Dec63

DATE ACQ: 19Mar64

ENCL: 00

SUB CODE: GP

NO REF SOV: 001

OTHER: 002

Card 2/2

20678

S/120/61/000/001/010/062
EO32/E114

26.2322

AUTHORS: Mikhaylov, V.A., Roynishvili, V.N., and
Chikovani, G.Ye.

TITLE: Controlled Spark Chamber - A New Instrument for the
Observation of Charged Particle Tracks

PERIODICAL: Pribery i tekhnika eksperimenta, 1961, No.1, pp.39-42

TEXT: The spark chamber takes the form of a number of
discharge gaps between conducting plates located in a neon
atmosphere. If immediately after the passage of the particle a
high-voltage pulse having a length of about 10^{-7} sec is applied to
the plates then a localized streamer discharge takes place
roughly along the path of the particle. The width of the streamer
is 2 to 3 mm and the intensity is sufficient for it to be
photographed. Three such chambers have been built and tested.
The spark gaps were formed by sets of parallel plates alternately
connected to each other. In two of the chambers the assembly was
mounted in a glass cylinder with metal plates at each end. In
the third chamber the system was mounted in a perspex container.
The plates were made of brass (1 to 2 mm thick) and had an area of
Card 1/4

20678

S/120/61/000/001/010/062
E032/E114

Controlled Spark Chamber - A New Instrument for the Observation
of Charged Particle Tracks

11 x 14 cm². The spark gap was 8, 9 and 10 mm respectively. The working gas was neon ("high purity") at a pressure of 1.1 atm. The characteristics of the chamber were investigated using cosmic μ -mesons which passed through 3 rows of Geiger counters (A, 6 and B, Fig.1) and the spark chamber. The arrangement is shown schematically in Fig.1. The outputs of the three Geiger counters were fed into a coincidence circuit which then triggered the hydrogen thyratron ТГВ-1-325/16 (TG11-325/16) which in turn applies the high-voltage pulse to the plates of the spark chamber. The device is not very dependent on the delay between the coincidence pulse and the high-voltage pulse (in the range 0-12 μ sec) provided rubber seals and other contaminating materials are not present in the apparatus. The chamber has a plateau in the range 6-11 kV/cm. The position of the particle trajectory can be determined to within a few tenths of a mm, while the error in the determination of the direction of motion of a particle as determined by two spark chambers at a distance of 50 cm apart was found to be

Card 2/4

20678

S/120/61/000/001/010/062
EO32/E114

Controlled Spark Chamber - A New Instrument for the Observation
of Charged Particle Tracks

5×10^{-4} radians. Acknowledgements are expressed to
T.S. Grigalashvili for assistance in the construction of the
apparatus and to D.V. Gersamia for taking part in the
interpretation of the results.
There are 6 figures and 6 references: 1 Soviet and 5 non-Soviet.

ASSOCIATION: Institut fiziki AN GruzSSR
(Physics Institute, AS Georgian SSR)

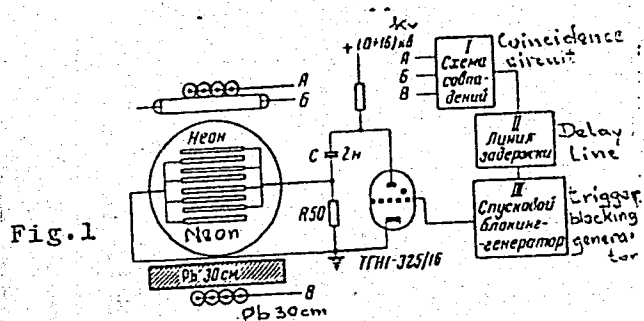
SUBMITTED: February 25, 1960

Card 3/4

20678

S/120/61/000/001/010/062
E052/E114

Controlled Spark Chamber - A New Instrument for the Observation of Charged Particle Tracks



Card 4/4

, G. Ye.; MIKAYLOV, V. A.; ROZINISHVILI, V. N.;

Dark Chamber

Report submitted for the 8th Intl. Conf. on Cosmic Rays (IUPAP) Jaipur, India,
2-14 Dec 1963

ROYOVSKA, I.

Microbiology of canned vegetables. Kons. i ov.prom. 15 no.11:38-40
N '60. (MIRA 13:10)

1. Institut brodil'noy promyshlennosti, Varshava.
(Vegetables, Canned--Bateriology)

VABEL', V.D., inzhener; ROYSTACHER, K.I., kandidat tekhnicheskikh nauk.

Preventing automatic frequency discharge as a result of switching-in
capacity reserve in short circuits. Elek.sta. 25 no.3:52-53 Mr '54.
(MLRA 7:6)

(Electric cutouts) (Short circuits)

ROYSTACHER, K. I.

"Methods of Reducing the Error in Single-Wire Current Transformers Built Into Oil Breakers" (Sposoby umen'sheniya pogreshnosti odnoprovodnykh transformatorov toka, vstroyennykh v maslyanyye vyklyuchateli), Elektrichestvo, No 7, 1950.

Electrical Engineering Institute, AS, Ukrainian SSR
Dissertation for Candidate Degree

1. ROYSTACHER, K. I.

2. USSR (600)

4. Electric Relays

7. Failure of single relay protection connected with diverse currents, Elek. sta., 23, No. 11, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

ROYSTACHER, K.S., kand. tekhn. nauk

Choice of effective voltages for electric power distribution networks.
Energetik 11 no.9:6-9 S '63. (MIRA 16:10)

POYEMNIY, F.A.; ROYSZEN, Sh.S.

Corneopterygoidal reflex. Vop.diag.i patomorf.nerv.zab. no.2:184-
186 '59. (MIRA 15:8)

(REFLEXES)

(PONS VAROLII—DISEASES)

ROYTBAK, A.; ERISTAVI, N.; Prinimala uchastiye KASHAKASHVILI, R.P.

Recruitment reaction in normal cats. Zhur. vys. nerv. deiat. 15
no.6:1014-1025 N-D '65. (MIRA 19:1)

1. Institut fiziologii AN GruzSSR, Tbilisi. Submitted June 16, 1965.

ROYTBAK, A.I.

Glial origin of slow negative potentials of the surface of the
cortex. Trudy Inst. fiziol. AN Gruz. SSR 14:67-87 '65.

(MIRA 18:10)

ROYTBAK, A.I.

On the origin of two kinds of respiratory movements in frogs [with summary in English]. Seob.AN Gruz.SSR 8 no.3:183-191 '47. (MLRA 9:7)

1.Akademiya nauk Gruzinskoy SSR, Institut fiziologii imeni akademika I.S. Beritashvili, Tbilisi. Predstavleno akademikom I.S.Beritashvili.
(Respiratory organs--Batrachia) (Frogs)

ROYTBAK, A. I., prof.

Hungarian Physiological Conference. Vest. AN SSSR 34 no. 2:
105-106 F '64. (MIRA 17:5)

ANOKHIN, P.K., red.; KOSTYUK, P.G., red.; KRYZHANOVSKIY, G.N., red.;
LEBEDINSKIY, A.V., red.; MENITSKIY, D.N., red.; MUZYKANTOV,
V.A., red.; PARIN, V.V., red.; ROYTBAK, A.I., red.; KULLANDA,
K.M., red.

[Contemporary problems of electrophysiological studies of
the nervous system] Sovremennye problemy elektrofiziologi-
cheskikh issledovaniy nervnoi sistemy. Moskva, Meditsina,
1964. 519 p. (MIRA 17:7)

1. Akademiya meditsinskikh nauk SSSR, Moscow.

ROYTBURD, A. L.; USIKOV, M. P.; UTEVSKIY, L. M.

"On the creep mechanism of nickel and its alloys.

report submitted for 3rd European Regional Conf, Electron Microscopy,
Prague, 26 Aug-3 Sep 64.

ROYTBAK, A.I.

Change in the activity of the respiratory center of the frog in connection with spontaneous general movements. Soob. AN Gruz. SSR 8 no. 4:253-257 1947. (MIRA 9:7)

1. Akademiya nauk Gruzinskoy SSR, Institut fiziologii imeni akademika I.S. Beritashvili, Tbilisi. Predstavleno akademikom I.S. Beritashvili.
(Frogs) (Respiration)

ROYTBAK, A., BERITOV, I., and ROYTBAK, A.

"On Electric Manifestations in the Process of Inhibition in the Spinal Cord."
Zef. Zhur., Vol 33, No 6, 1947, P 737. Physiology Institute I. S. Beritashvili,
Acad Sci Georgian SSR.

SG: U-1326

ROYTBAK, I.

Peritov, I. and Roytbak, A. "Electric potentials of the spinal cord of the frog,"
Trudy In-ta fiziologii im. Beritserivili, Vol. VII, 1948, p. 1-67 -- Summary in
Georgian -- Bibliog: 31 items

So: U-3566, 1 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 13, 1949)

ROYTBAK, A.

Veritov, I. and Roytbak, A. "Bioelectric potentials of the spinal cord at the time of inhibition," Trudy In-ta fiziologii im. Beritashvili, Vol. VII, 1948, p. 69-87
Summary in Georgian -- Bibliog: 17 items

So: U-3566, 15 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 13, 1949)

BERITOV, I.; BAKURADZE, A.; ROYTBAK, A.

Electrical phenomena of the spinal cord of the cat. Trudy Inst.
fiziol. AN Gruz.SSR. 7:89-128 '48. (MLRA 9:8)
(SPINAL CORD) (ELECTROPHYSIOLOGY)

BERITOV, I.S.; KVAVILASHVILI, Sh.V.; ROYTBAK, A.I.

Distortions caused by a transition condenser in a low-frequency
rheostat amplifier. Trudy inst.fiziol.AN Gruz. SSR 8:1-16 '50.

(MIRA 9:7)

(ELECTRIC RHEOSTATS) (CONDENSERS (ELECTRICITY)) (ELECTROPHYSIOLOGY)

ROYTBAK, A.I.

Characteristics and origin of electric potentials in the dorsal and ventral roots of a frog's spinal cord following stimulation of the trigeminal nerve. Trudy inst. fiziol. AN Gruz. SSR 8:93-133 '50. (MLRA 9:7)
(ELECTROPHYSIOLOGY)-(SPINAL CORD)-(TRIGEMINAL NERVE)

ROYTBAK, A.

BERITOV, I., akademik; ROYTBAK, A.

Electric potentials of the spinal cord in frogs during stimulation of the skin. Nauk.zap.Kiev.un.8 no.7:241-247 '50 [i.e.'49]. (MIRA 9:10)
(SPINAL CORD) (NERVOUS SYSTEM--BATRACHIA)(ELECTROPHYSIOLOGY)

1. ROYTBAK, A. I.
2. USSR 600
4. Nervous System - Frogs
7. Oscillographic analysis of reflex reactions of the frog's brain, Soob. AN Gruz. SSR, 12, No. 7, 1951.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

ROYTBAK, A.I.; KHECHINASHVILI, S.N.; BERITASHVILI, I.S., akademik.

Slow oscillations in the electro-encephalogram of a rabbit, coinciding with the rhythm of breathing. Soob.AN Gruz.SSR 13 no.9:549-553 '52.
(MLRA 6:5)

1. Akademiya Nauk Gruzinskoy SSR. Institut fiziologii, Tbilisi (for Royt-bak, Khechinashvili).
2. Akademiya Nauk Gruzinskoy SSR (for Beritashvili).
(Electroencephalography)

ROYTRAK, A.I.;KHECHINASHVILI, S.N.

Discussion on E. D. Adrian's article "Electrical activity of the olfactory bulb in mammals." Fiziol. zh. SSSR 38 no.3:350-355 May-June 1952. (GIML 23:2)

1. Physiological Institute of the Academy of Sciences Georgian SSR.

ROYTBAK, A.I.

Oscillographic study of sites of increased excitability in the
cerebral cortex. Trudy Inst. fiziol. AN Gruz. SSR 9:97-131 '53.
(Cerebral cortex) (MIRA 8:9)

ROYTBAK, A.I.; SAVANELI, M.A.

Electroencephalographic study of schizophrenia. Trudy Inst.
fiziol. AN Gruz. SSR 9:201-220 '53. (MLRA 8:9)

1. Nauchnaya sotrudnitsa Instituta Psikhiatrii imeni M.M.Asa-
tiani (for Savaneli)
(Electroencephalography) (Schizophrenia)

ROYTBAK, A.I.

Irradiation of impulses from the respiratory center of the cerebral cortex. Soob.AN Gruz.SSR 14 no.6:361-367 '53. (MLRA 7:4)

1. Akademiya nauk Gruzinskoy SSR, Institut fiziologii, Tbilisi.
(Cerebral cortex)

ROYTBAK, A.I.

Electric potentials of the optic tectum of the frog. Fiziol. zh. SSSR
39 no.2:183-191 Mar-Apr 1953. (CLML 24:3)

1. Institute of Physiology of the Academy of Sciences Georgian SSR.

ROYTBAK, A.I.

"Bioelectrical Phenomena Produced in the Cerebral Cortex by its Direct Stimulation and by Peripheral Stimulations." Dr Biol Sci, Inst of Physiology, Acad Sci Georgian SSR, Tbilisi, 1954. (KL, No 7, Feb 55)

SO: Sum. No. 631, 26 Aug 55 - Survey of Scientific and Technical Dissertations
Defended at USSR Higher Educational Institutions (14)

ROYTBAK, A. I.

FD 258

USSR/Medicine - Physiology

Card 1/1

Author : Roytbak, A. I. (Tbilisi)

Title : Critique of Eccles' hypothesis

Periodical : Fiziol.zhur. 2, 239-243, Mar/Apr 1954

Abstract : Natural science has always been the arena of ideological struggle. This struggle became even more bitter from the moment that the human brain, which created natural science, itself became the object of study. Natural science here comes immediately into conflict with the problem of the relationship between consciousness and matter and between brain and thought. Eccles has attempted to explain this relationship not on the basis of the scientific concept of the world, which is dialectic materialism, but on the basis of dualism or idealism. His hypothesis rejects Marxist philosophical materialism: it is based on an assumption that the principal phenomena can be easily solved from the point of view of spiritualism and religion. Eccles' hypothesis is merely an assumption advanced to support those economic theories which reflect a civilization that exists solely for the benefit of certain classes.

Institution :

Submitted : June 1, 1953

Roytbak, A. I.
USSR/Medicine - Physiology

FD-918

Card 1/1 Pub 33-1/29

Author : Roytbak, A. I.

Title : Influence of the respiratory center on the cortex of large hemispheres

Periodical : Fiziol. zhur. 40, 261-268, May/Jun 1954

Abstract : Experiments were conducted on several cats and one rabbit, and several people were subjected to observation in order to verify the assumption that excitation impulses from the respiratory center, diffused along the central nervous system, act upon the cortex of large hemispheres. On the basis of information collected it was concluded that afferent impulses conveyed from periphery to cortex as a result of respiration originate not in the lungs or respiratory muscles, but are controlled by the respiratory center located in the medulla oblongata. It can be assumed that activity of the cortex, its tonicity, and excitability is also controlled by the respiratory center located in the medulla of the brain. Diagrams. Eleven Soviet and two non-Soviet references.

Institution : Physiological Institute, Academy of Sciences, Georgian SSR

Submitted : March 23, 1953

ROYTBAK, A.I.

Analysis of bioelectric phenomena produced in the cerebral cortex by
direct electric stimulation. Uch. zap. Len.un.no.176:256-272 '54.
(MLRA 9:9)

1. Iz instituta fiziologii Akademii nauk Gruzinskoy SSR.
(CEREBRAL CORTEX) (ELECTROENCEPHALOGRAPHY)

ROYTBAK, Aleksandr Il'ich.

Academic degree of Doctor of Biological Sciences, based on his defense, 29 Jan 55, in the Council of Inst of Physiology, Acad Sci Georgian SSR, of his dissertation entitled: "On the bio-electric phenomena occurring in the cortex of the cerebral hemispheres under direct and peripheral stimulation."

Academic degree and/or title: Doctor of Sciences

SO: Decisions of VAK, List no. 5, 3 Mar 56, Byulleten' MVO SSSR, No. 2, Jan 57, Moscow, pp 17-20, Uncl. JPRS/NY-466

Roytbak, A. I.

USSR/Medicine - Higher Nervous Activity

FD-2782

Card 1/1

Pub. 154-3/19

Author

: Beritov, I. S.; Roytbak, A. I.

Title

: On the nature of the process of central inhibition

Periodical

: Zhur vys. nerv. deyat. 5, 173-186, Mar-Apr 1955

Abstract

: (From a report presented at the 9th Session of the Academy of Medical Sciences USSR, 8 March 1955). Presents authors' theoretical concepts of central inhibition and their factual basis, as determined by the authors in a study of the electrical activity of the cerebral cortex. Graphs; diagrams; photomicrograph. Nineteen references, 10 of them USSR (9 since 1940).

JOHN, A.E.

PHENOMENES BIOELECTRIQUES SE PRODUISANT DANS L'ECORCE
CEREBRALE A LA STIMULATION COMBINEE DE DEUX POINTS DE
L'ECORCE

pp 332, Reports given at the 20th International
Congress of Physiologists, Brussels, 30 Jul-4 Aug 56

Translation E- 5368

ROYTBAK, A.I.

Primary responses of the cerebral cortex in normal animals. Trudy

Inst. fiziol. AN Gruz. SSR 10:103-135 '56 (MIRA 12:7)

(CEREBRAL CORTEX, physiology,

eff. of auditory & cutaneous stimuli (Rus))

(NOISE, effects,

on cerebral cortex (Rus))

(SKIN, physiology,

eff. of stimulation on cerebral cortex (Rus))

ROYTBAK, A.I.

Nature of the extinction of orientation reflexes. Nauk zap. Kyiv.
un. 16 no.17:167-174 '57. (MIRA 13:2)
(ORIENTATION) (ELECTROPHYSIOLOGY) (CEREBRAL CORTEX)

ROYTBAK A. I.

30-1-32/39

AUTHORS: Daidishvili, N. M., Professor.
 Chavishvili, Ch. F., Corresponding Member AS, Georgian SSR

TITLE: A Meeting With the Biologists of the Transcaucasian Region
 (Vstrecha s biologami Zakavkaziya). Joint Session of the Bio-
 logical Departments of Two Academies (Ob'yedinennyye sessiya
 biologicheskikh Stalinskoy i Tbilisskoy Akademiy).

PERIODICAL: Vestnik AN SSSR, 1958, Vol. 23, Nr 1, pp. 121-125 (USSR)

ABSTRACT: At Tbilisi a joint session of the Department for Biological
 Sciences AN USSR and two departments of the AN Gruzii SSR of
 Biological and Medical, as well as of agricultural sciences
 took place. Also the representatives of several transcaucasian
 republics were present, as well as a large group of scientists
 from Moscow and Leningrad. During the congress, which lasted
 from September 28 to October 3, 3 plenary and 4 sectional
 sessions took place. The following reports were delivered:
 1) I. S. Beritashvili. On the part played by the hemispheres
 of the cerebrum and the cerebellum in the spatial orientation
 of animals.
 2) S. P. Marikashvili. The thalamic reticular system and the
 primary reaction of the cerebral cortex of the large hemi-
 spheres.
 3) A. I. ROYTBAK : Bioelectric Phenomena in the source of
 conditioned excitations.

Card 1/4

ROYLAK, A. P.

"Primary Responses Of The Cerebral Cortex To Sound Clicks And Electrical Stimulation Of The Medial Geniculate Nucleus, Their Changes During Unconditioned Stimulation."

report submitted for the 21st International Congress of Physiological Sciences, Buenos Aires, 9-15 Aug 1959.

17(1,4)
AUTHORS:

Roytbak, A. I., Dedabrishvili, Ts. M.

SOV/20-124-4-66/67

TITLE:

On the Mechanism of "Active Relaxation" (Sechenov's Phenomenon)
(O mekhanizme "aktivnogo otdykha" (fenomena Sechenova)).

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 4, pp 957-960 (USSR)

ABSTRACT:

Sechenov found that simple relaxation is less effective on the restoration of the working ability of a fatigued hand than is an equally long period of relaxation during which work is done by the other hand (soc. "active relaxation"). Sechenov assumed that during this period the nerve centers are re-charged with energy (Ref 16). Since then many hypotheses for the clarification of this phenomenon have been propounded (Refs 1-11). The investigation under consideration serves the purpose of clarifying the mechanism of Sechenov's phenomenon on the basis of an analysis of the bioelectric functions of the cerebral cortex. Sechenov's experiment was repeated with the simultaneous recording of the work and of the electro-encephalogram (EEG). Figure 1 shows the changes of the EEG. Figure 2 explains the EEG-analysis of the phenomenon of "active relaxation". From the results obtained it can be concluded that during the period of "active relaxation" the formatio reticularis (f.r.) of the brain stem is excited. It

Card 1/3

SOV/20-124-4-66/67

On the Mechanism of "Active Relaxation" (Sechenov's Phenomenon)

can be concluded that this excitation forms the basis of the favorable effect of "active relaxation". A longer period of "active relaxation" is less effective than a short one (Ref 17), as in the former case the activating effect abates. This also explains the favorable influence of adrenalin on the working ability (Ref 3). It could be proved that adrenalin that has been introduced into the blood stream excites the f.r. of the brain stem and causes the "activating" reaction of the EEG (Ref 18). Consequently, the mechanism of "active relaxation" consists in the removal of a cortical block (developed during the preceding work), due to an excitation of the formatio reticularis of the brain stem. There are 2 figures and 22 references, 17 of which are Soviet.

ASSOCIATION: Gruzinskiy nauchno-issledovatel'skiy institut fizicheskoy kul'tury
Tbilisi (Georgian Scientific Research Institute of Physical Culture,
Tbilisi)

Card 2/3

SOV/20-124-4-66/67

On the Mechanism of "Active Relaxation" (Sechenov's Phenomenon)

PRESENTED: December 6, 1957, by I. S. Beritashvili, Academician

SUBMITTED: November 27, 1957

Card 3/3

VORONIN, Vladimir Vasil'yevich, prof.; KUPARADZE, Marina Razhdenovna,
kand.med.nauk; TOTIBADZE, Nana Konstantinovna, nauchnyy
sotrudnik; ROYTBAK, A.I., doktor biolog.nauk, red.; NINUA, K.V.,
red.izd-va;

[Myelinic nerve fiber; its structure and changes under the
influence of various agents] Mielinovo nervnoe volokno;
ego stroenie i izmeneniia pod vlianiem raznykh vozdeistvii.
Tbilisi, Izd-vo Akad.nauk Gruzinskoi SSR, 1960. 51 p.

(MIRA 14:4)

1. Pochetnyy chlen Akademii nauk Gruzinskoy SSR (for Voronin).
(NERVES--ANATOMY)

ROYTBAK, A.I.

Def. at
Tbilisi State U.

- Джонидзе Давид Иванович. Исследования о центрах лугушан. 1944. Изменения в биологии и экологии габри-
да. Формы. 1952. 156 с.
Защ. 1953. 30.6.
1050. Бабава Мария Антоновна. Приспособительные изменения толеран-
ция фосфата в мышцах.
Защ. 1953. 29.6.
1051. Магидзе Петр Георгие-
вич. Промысловые животные при ис-
кусственном вскармливании собак и при ис-
кусственной имитации у промыслового
хозяйства. 1939.
Защ. 1940. 26.2.
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сандрович. Данные по биологии стро-
абачной интосифиции. 1950. 2, V.
22 с. 10 табл., рис.
Защ. 1951. 30.5.
1053. Ровбаев Александр Иван-
ович. Дипломная работа. 1944.
Защ. 1945. 18.7.
1054. Саркисов Самосвист Мар-
гаритович. Генетическое изучение
домашней мушкетеры с целью выработки по-
лого биологического метода борьбы с
ней. Ереван. 1943. 97, 5 с. [5] табл. л.
рис. 1944. 22.4.
1055. Самидзе Игорь Коно-
стантинович. К сравнительной рас-
толкули славянской обочины желтого
чужака пазючника. 1954. 174 с. 39
рис. 1955. 23.2.
1056. Собаева Ольга Борисо-
вна. Социальная экология как возбудитель
внешней среды полусудачков мел-
зы. Дзугдзугу. 1948. 159 с., рис.
Защ. 1948. 25.6.

Dissertation for degree of
Candidate Biological Sciences

L 22212-66

ACC NR: AT5024227

SOURCE CODE: UR/3167/65/014/000/0067/0087

AUTHOR: Roytbak, A. I.

ORG: none

TITLE: On the glial origin of slow negativity of the cortex

SOURCE: AN GruzSSR. Institut fiziologii. Trudy, v. 14, 1965. Sovremennyye problemy deyatel'nosti i stroeniya tsentral'noy nervnoy sistemy (Present problems of the activity and structure of the central nervous system), 67-87

TOPIC TAGS: dendritic potential, slow negativity, cortical negativity, paired stimulation, tetanic stimulation, CNS, glia, cerebral cortex, cortical activity

ABSTRACT: The dendritic potential (DP)—20—30 msec of negative potential induced by high-intensity stimulation of the cortical surface —is followed by a slow negativity (SN) of unusually long duration, whose origin and significance are unknown. Slow negativity (SN) was investigated in nembutal-narcotized cats. It was found that SN requires more intense stimulation than DP. After a latent period of approximately 15 msec, SN builds up over 50 to 80 msec to a plateau of 2 mv or more, which lasts 300 to 3000 msec. SN can be evoked by stimuli below the SN threshold, repeated at short (5 to 20 msec) intervals. SN reactions to subsequent stimulation are suppressed so long as a first SN reaction is in progress. In form, duration, and reaction to paired and tetanic stimulation, SN resembles the electrotonic dorsal spinal root po-

Card 1/2

L 22212-66

ACC NR: AT5024227

tentials. Of the EEG components, it most resembles the delta rhythm. SN is weakened or abolished by local strychnine application, but is comparatively resistant to GABA. DP evoked by stimulation of other parts of the cortex is depressed during SN. On the basis of these findings, it is concluded that SN results from depolarization of apical dendrites due to activation of adjacent glia. Intensive stimulation of a complex of cortical neurons is transmitted to oligodendrocytes through neuroglial connections. This is followed by depolarization of the oligodendrocytes, release of chemical substances into glial-neuronal space, and depolarization of apical dendrites. SN thus does not seem to be a direct post-synaptic process. [DP]

SUB CODE: 06/ SUBM DATE: none/ OTH REF: 041/ SOV REF: 017/

Card 2/2 nst

ROYTBAK, A.I.

Nature of cortical inhibition. Zhur. vys. nerv. deiat. 13
no.5:859-869 S-0'63 (MIRA 16:11)

1. Institute of Physiology, Georgian Academy of Sciences,
Tbilisi.

BARITASHVILI, I.S., akademik, red.; BEKAYA, G.L., red.;
DZIDZISHVILI, N.M., red.; ROYTBAK, A.I., red.; NINUA,
K.V., red. izd-va

[Gagra Symposium] Gagrskie besedy. Tbilisi, Izd-vo AN
Gruz.SSR. Vol.4. [Structural and functional characteristics
of the cortical neurons] Strukturnye i funktsional'nye oso-
bennosti korkovykh neironov. Pod obshchei red. I.S.
Beritashvili. Tbilisi, Izd-vo AN Gruz.SSR. 1963. 405 p.
(MIRA 17:4)

Roybak, A.I.

PHASE I BOOK EXPLOITATION

SOV/6205

Makarchenko, A. F., Resp. Ed.

Osnovnyye voprosy elektrofiziologii tsentral'noy nervnoy sistemy
(Basic Problems in the Electrophysiology of the Central Nervous System) Kiyev, Izd-vo AN UkrSSR, 1962. 231 p. Errata slip inserted. 1600 copies printed.

Sponsoring Agency: Vsesoyuznoye fiziologicheskoye obshchestvo im. I. P. Pavlova. Institut fiziologii im. A. A. Bogomol'tsa Akademii nauk USSR.

Eds.: A. F. Makarchenko, Resp. Ed.; D. S. Vorontsov, P. G. Kostyuk, F. N. Serkov; Resp. Secretary: I. P. Semenyutin; Tech. Ed.: Yu. M. Bokhno.

PURPOSE: This book is intended for physiologists who are interested in recent advances in electrophysiology.

Card 1/3

5

Basic Problems in the (Cont.)

SOV/6205

COVERAGE: The present book is a collection of articles presented at the Symposium on Electrophysiology held in Kiyev on 1-2 July 1961. The articles in the collection are grouped into the following sections: 1) Electrophysiology of neurons (sensory, motor, and relay neurons of the spinal cord, and neurons of the retina); 2) Induced electrical potentials of the cerebral cortex; and 3) Background rhythms of the cerebral cortex. References are given following the individual chapters. No personalities are mentioned.

TABLE OF CONTENTS:

General Problems of Neuron Electrophysiology (P. G. Kostyuk, Kiyev)	5
Electrophysiology of Retinal Neurons (A. L. Byzov, Moscow)	29
Electrophysiology of Neurons of the Spinal Ganglia of Frogs (A. A. Lev, Leningrad)	40
Card $\frac{2}{3/3}$	

Basic Problems in the (Cont.)	SOV/6205	
Primary Responses of the Cerebral Cortex (A. I. Roytbak, Tbilisi)		75
Some Peculiarities of Electric Potentials Induced in the Cerebral Cortex (V. A. Artem'yev, Leningrad)		96
Secondary Bioelectric Reactions of the Cerebral Cortex (K. M. Kyllanda, Moscow)		110
Nature of the Background Rhythms of the Cerebral Cortex (Ye. N. Sokolov, Moscow)		157
Some Factors Determining Changes in EEG Rhythms (Yu. G. Kratin, Leningrad)		189
Mechanism of Variations in the Background Rhythms of the Cerebral Cortex (L. A. Novikova, Moscow)		201
AVAILABLE: Library of Congress		
SUBJECT: Biology and Medicine		
Card 3/3		

IS/dmp/bc
2-12-63

ROYTBAK, A.I., BUTKHUZI, S.M.

"Arousal reaction to stimulation of a specific thalamic nucleus."

Report submitted, but not presented at the 22nd International
Congress of Physiological Sciences.
Leiden, the Netherlands 10-17 Sep 1962

ROYTBAK, A.I.; BUTKHUZI, S.M.

Reaction of awakening in response to the stimulation of the
specific thalamic nucleus. Dokl. AN SSSR 139 no.6:1502-
1504 Ag '61. (MIRA 14:8)

1. Institut fiziologii AN Gruzinskoy SSR. Predstavleno akademikom
I.S. Beritashvili.
(OPTIC THALAMUS)
(SLEEP)

ROYTBAK, A.I.; DEDABRISHVILI, T S.M.; GOTSIRDIZE, I.K.

Changes in the latent period of the motor reaction in relation to
respiratory phase. Dokl. AN SSSR 136 no.6:1498-1500 F '61.
(MIRA 14:3)

1. Gruzinskiy nauchno-issledovatel'skiy institut fizicheskoy ..
kul'tury. Predstavleno akademikom I.S. Beritashvili.
(MOVEMENT, PSYCHOLOGY OF)
(RESPIRATION)

L 1653-66 ENT(m)/ENP(t)/ENP(k)/ENP(b)/ENA(c) JD/HW

ACCESSION NR: AP5021620

UR/0286/65/000/013/0101/0101
621.979.984.002.54

AUTHOR: Shofman, L. A.; Gedymin, Yu. Yu.; Rozhkov, V. M.; Starikov, V. S.;
Kryuchkov, M. A.; Davydov, G. V.; Akhmetshin, M. A.; Kvitnitskiy, A. B.;
Rogozinskiy, A. A.; Feygin, V. I.; Yegorov, I. V.; Roytberg, L. Kh.; Yermanok, M. Z.
Rodionov, A. S.

TITLE: Method for tube extrusion Class 49, No. 172601

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 13, 1965, 101

TOPIC TAGS: metal, metal tube, metal extrusion, tube extrusion

ABSTRACT: This Author Certificate introduces a method for tube extrusion from solid ingots. In this method the metal is first divided into several strips which are subsequently welded in the next die. In order to reduce the extrusion pressure, the diameter of the ingot should be smaller than that of the extruded tube. [AZ]

ASSOCIATION: none

SUBMITTED: 30Jan62
NO REF SOV: 000
Card 1/1 DP

ENCL: 00
OTHER: 000

SUB CODE: MM
ATD PRESS: 4093

L 1655-66 ENT(d)/ENT(m)/ENT(v)/ENT(t)/ENT(k)/ENT(h)/ENT(b)/ENT(l)/ENT(c)
 JD/HW
 UR/0286/65/000/013/0102/0102
 621.979.984.002.54

ACCESSION NR: AP5021621

AUTHOR: Shofman, L. A.; Gedymin, Yu. Yu.; Rozhkov, V. M.; Starikov, V. B.;
 Kryuchkov, M. W.; Davydov, G. V.; Akhmetshin, M. A.; Kvitnitskiy, A. N.;
 Rogozinskiy, A. A.; Feygin, V. I.; Yegorov, I. V.; Roytberg, L. Kh.; Yermanok, M. Z.;
 Rodionov, A. B.

TITLE: Tool for extruding of tubes. Class 49, No. 172602

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 13, 1965, 102

TOPIC TAGS: tube, metal tube, tube extrusion, extrusion tool, extrusion press

ABSTRACT: This Author Certificate introduces a tool for the extrusion of tubes from solid ingots, i.e., container, mandrel, welding chamber, and die. In order to increase the rigidity of individual tools and ensure their precise position in relation to one another, thereby improving the accuracy of the extruded tubes, the mandrel is rigidly mounted in relation to the container; it carries an internal die and is provided with a central compartment for the ingot. Radial canals connect this compartment with the welding chamber, which is formed between container wall and the mandrel surface.

Card 1/2

L 1655-66
ACCESSION NR: AP5021621
ASSOCIATION: none
SUBMITTED: 31Jan62
NO REF BOV: 000

ENCL: 00
OTHER: 000

0
SUB CODE: MM

ATD PRESS: 4095

Card 2/2 *EP*

ACC NR: AP6032531

SOURCE CODE: UR/0413/66/000/017/0132/0132

INVENTOR: Gil'dengorn, M. S.; Roytbarg, L. Kh.

ORG: none

TITLE: Method of producing clad articles. Class 49, No. 185671

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 17, 1966, 132

TOPIC TAGS: metal cladding, structural shape cladding, tube cladding, *STRUCTURAL
HARDWARE*

ABSTRACT: This Author Certificate introduces a method of producing clad articles, mainly structural shapes and tubes, by simultaneously extruding the base and cladding materials through a die. To expand the range of metals which can be bonded and to shorten the production time, extrusion is done at room temperature at an extrusion pressure increased to 150 kg/mm² and higher.

SUB CODE: 11, 13/ SUBM DATE: 30Dec63/

Card 1/1

UDC: 621.774.38:621.777

L 51376-65 EWP(k)/EWA(c)/EWT(d)/EWT(m)/EWP(h)/EWP(b)/EWA(d)/EWP(l)/EWP(w)/EWP(v)/
EWP(t) Pf-l EM/JD/HW
ACCESSION NR: AP5010976

UR/0286/65/000/007/0165/0165

AUTHOR: Zakharov, M. F.; Feygin, V. I.; Roytberg, L. Kh.; Shneyerov, I. S.;
Yermanok, M. Z.; Gil'dengorn, M. S.

TITLE: An extrusion attachment. Class 49, No. 169985 18

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 7, 1965, 165

TOPIC TAGS: extrusion, panel extrusion, extrusion attachment, panel extrusion
device 14

ABSTRACT: This Author Certificate introduces an attachment for the extrusion of
panels from hollow billets. The device consists of a mandrel (see Fig. 1 of the
Enclosure) fitted into a hollow stem and centered in the die which, during extru-
sion, forms the inner wall of the container. In order to lower the extrusion force
and to increase the quality of extruded articles, the stem is designed as a cyclin-
der in which the mandrel slides freely and the die has the shape of an open ring
Orig. art. has: 1 figure. [WW]

ASSOCIATION: none

Card 1/3

L 51376-65

ACCESSION NR: AP5010976

SUBMITTED: 14Jul62

NO REF SOV: 000

ENCL: 01

OTHER: 000

SUB CODE: MM

ATD PRESS: 4006

Card 2/3

L 51376-65
ACCESSION NR: AP5010976

ENCLOSURE: 01

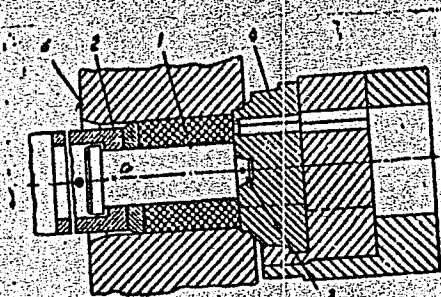


Fig. 1. Extrusion attachment.
1 - Mandrel; 2 - hollow stem;
3 - free end of mandrel; 4 - die;
5 - container.

Card 3/3 *W.B.*

ROYTBARGA, L. Kh.

"Cold pressing of pipes"

Report presented at the branch seminar on drawing of tube and aluminum alloys
on self-aligning mandrels, Metallurgical Factory im V. I. Lenin, Kuybyshev,
24-28 June 1963

(Tsvet. Metally, No. 10, 1963 pp 84-85, author Starostin, Yu. S.
JPRS 24,651 19 May 1964

L 43736-66 EWT(m)/EWP(t)/ETI IJP(c) WN/JD/JH/JG
ACC NR: AP6030769 SOURCE CODE: UR/0363/66/002/009/1599/1603

AUTHOR: Kostikov, V. I.; Mitin, B. S.; Roytberg, M. B.

ORG: Moscow Institute of Steels and Alloys (Moskovskiy institut stali i splavov)

TITLE: Reaction between tungsten and molten aluminum or silicon oxides

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 9, 1966. 1599-1603

TOPIC TAGS: tungsten compound, aluminum oxide, silicon oxide, TUNGSTEN,
CHEMICAL REDUCTION, VAPORIZATION

ABSTRACT: The reaction between tungsten and molten aluminum or silicon oxides at 2300-2700C has been investigated. It was found that the reaction was complex and

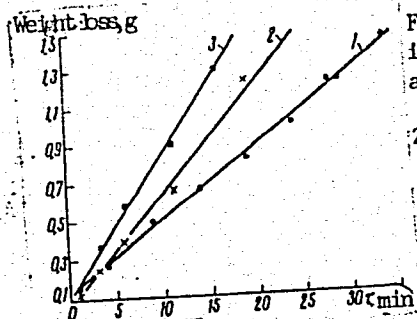


Fig. 1. Time dependence of weight loss into tungsten-molten aluminum oxide system at:

2300C (1), 2500C (2), and 2700C (3).

Card 1/2

UDC: 546.78+546.623-31+546.28

L 43736-66

ACC NR: AP6030769

involved the following processes: reduction of oxides by tungsten, vaporization of reduction products, reaction between the reduction products in the vapor phase, and vaporization and dissociation of oxides. The main factor determining the weight loss in the tungsten-refractory oxide system is vaporization of tungsten oxide. The time dependence of weight loss during the reaction between tungsten and aluminum oxide is shown in Fig. 1. The time dependence for tungsten-silicon oxide reaction follows a similar pattern but the weight loss is less intensive. Orig. art. has: 5 figures. [TD]

SUB CODE: 11, 07/ SUBM DATE: 01Dec65/ ORIG REF: 004/ OTH REF: 004/
ATD PRESS: 5076

Card

2/2

hs

ROYTBERG, Ya.A. (Chernigov)

Theorem on homomorphisms defined in an L_p space by elliptic operators, and greater local smoothness of generalized solutions.
Ukr. mat. zhur. 17 no.5:122-129 '65.

(MIRA 18:12)

1. Submitted December 8, 1964.

L 32113-65

ACCESSION NR: AP5006266

S/0040/65/029/001/0165/0172

AUTHOR: Roytenberg, L. Ya. (Moscow)TITLE: On the motion of a gyrocompass whose point of support shifts randomly

SOURCE: Prikladnaya matematika i mekhanika, v. 29, no. 1, 1965, 165-172

TOPIC TAGS: gyrocompass motion, randomly shifting support, linear inhomogeneous differential equation, random process, integral equation solution

ABSTRACT: The motion of a gyrocompass is analyzed in the case when its point of support shifts randomly. To determine the equations of motion, the general equations of motion derived by A. Yu. Ishlinskiy (On the theory of gyrocompasses. Prikladnaya matematika i mekhanika, v. 20, no. 4, 1956) are taken. These equations are reduced by means of certain transformations to a new equivalent form. On the basis of these equations, using certain simplifying assumptions for the motion parameters, a system of linear inhomogeneous differential equations with random coefficients and right-hand sides is derived which describes the motion of a gyrocompass when its point of support shifts randomly. In the case when no other external forces are applied to the gyrocompass in addition to the forces explicitly indicated in the general equations of motion, the derived equations of motion are

Card 1/2

L 32113-65

ACCESSION NR: AP5006266

reduced to a simplified integral equation of matrix form. The solution of this equation is obtained by the method of successive substitutions in the form of an absolutely and uniformly convergent series in powers of a small parameter λ . As an example, the motion of a gyrocompass is analyzed in the case when the random processes $W_j(t)$ ($j = 1, 2, 3$), which characterize the acceleration components on the coordinate axes of the point of support, are stationary processes of the white noise type whose mathematical expectations are equal to zero and the correlation functions are of a particular form. Orig. art. has: 49 formulas. [LK]

ASSOCIATION: none

SUBMITTED: 30Jun64

ENCL: 00

SUB CODE: NG,MA

NO REF SOV: 004

OTHER: 000

ATD PRESS: 3200

Card 2/2

ZASLUYEV, V.; ROYTBERG, I.

Made in the capital. Okhr.truda i sots.strakh. 5 no.11:30-31
N '62. (MIRA 15:12)

(Safety appliances)

TSEYTLIN, Grigoriy Yul'yevich; ROYTERG, Petr Arkad'yevich;
MOSHAPOVA, T.P., red.

[Planned preventive repairs of hydraulic structures of
harbors] Planovo-predup.editel'nye r monty portovykh gid-
rotekhnicheskikh sooruzhenii. Moskva, Transport, 1964.
107 p. (MIRA 17:9)

TSEYTLIN, Grigoriy Yul'yevich; ROYTBURG, Petr Arkad'yevich;
MOSEHAROVA, T.F., red.

[Routine maintenance of the hydraulic structures of
harbors] Planovopredupreditel'nyi remont portovykh gid-
rotekhnicheskikh sooruzhenii. Moskva, Transport, 1964.
107 p. (MIRA 18:2)

SEDOV, V., general-mayor; IGNAT'YEV, S., polkovnik; ROYTBURG, S., gvardii
inzhener-polkovnik

Training of driver-mechanics. Voen. vest. 42 no.11:57-59
N '62. (MIRA 16:10)

(Tank warfare)

ROYTBERG, V.

MISKARYAN, N., kandidat veterinarnykh nauk; ROYTBERG, V., vetvrach;
DEGTYAREV, G.

Bleeding small livestock. Mias.ind.SSSR 28 no.4:23 '57. (MLRA 10:7)

1. Ulan-Udenskiy myasokombinat (for Degtyarev).
(Blood) (Slaughtering and slaughterhouses) (Albumin)

ROYTBERG, Ya.A. (Chernigov)

Local increase of smoothness up to the boundary of solutions to
elliptic equations. Ukr. mat. zhur. 15 no.4:444-448 '63.

(MIRA 17:4)

ROSENBERG, Ya.A.

Elliptic problems with nonuniform boundary conditions and a local increase of smoothness up to the boundary of generalized solutions. Dokl. AN SSSR 157 no.1:194-201. Izv. '64 (MIRA 17:8)

1. Chernigovskiy gosudarstvennyy pedagogicheskii institut im. I.G. Shchegoleva. Predstavleno akademikom G.I. Petrovskim.

L 32169-65 EWI(d) IJP(c)

ACCESSION NR: AR4046311

S/0044/64/000/008/B061/B062

SOURCE: Ref. zh. Matematika, Abs. 8B316

AUTHOR: Berezanskiy, Yu. M.; Kreyn, S. G.; Roytberg, Ya. A.

TITLE: The theorem on homeomorphisms and the local increase of smoothness, down to the boundary of solutions of elliptic equations

CITED SOURCE: Materialy* k Sovmestnomu sovetsko-amerikanskomu simpoziumu po uravneniyam s chastny*mi proizvodny*mi. Novosibirsk, avg. 1963. Sib. otd. AN SSSR. Novosibirsk, 1963.

TOPIC TAGS: homeomorphism, smoothness, elliptic equation, Euclidian space, manifold, conjugate operator, finite dimensional space, interpolation theorem, Hilbert scale, discontinuous coefficient

TRANSLATION: Let $\Omega \subset R^n$ be a limited region in the Euclidian space with the boundary $\partial\Omega$. Within Ω , the operator

Card 1/4

L-32469-65

ACCESSION NR: AR4046311

$$A(x, D) = \sum_{|\alpha| \leq 2m} a_\alpha(x) D^\alpha.$$

is given. On the manifold $\partial\Omega$ the following operators are determined,

$$B_j(x, D) = \sum_{|\alpha| \leq m_j} b_{j\alpha}(x) D^\alpha, j=1, \dots, m,$$

$a=(a_1, \dots, a_n)$ is the multiindex, $|\alpha| = \alpha_1 + \dots + \alpha_n$. The functions $a_\alpha(x)$, $b_{j\alpha}(x)$ are assumed to be sufficiently smooth. It is well known (RZHMate, 1961, 8B180) that the properly elliptic operator $\mathcal{U} = (A, B_1, \dots, B_m)$ in all cases where $l > l_0 = \max(2m, m_j + 1/2)$ realizes (with an accuracy to finite-dimensional spaces) the homeomorphism

$$\mathcal{U}: H^l(\Omega) \rightarrow H^{l-m}(\Omega) \times \prod_{j=1}^m H^{l-m_j-1/2}(\partial\Omega).$$

If, for operator $\mathcal{U}$, there exists a conjugate operator of the same type, then it may be concluded from considerations of duality that the conjugate operator $\mathcal{U}^*$

Card 2/4